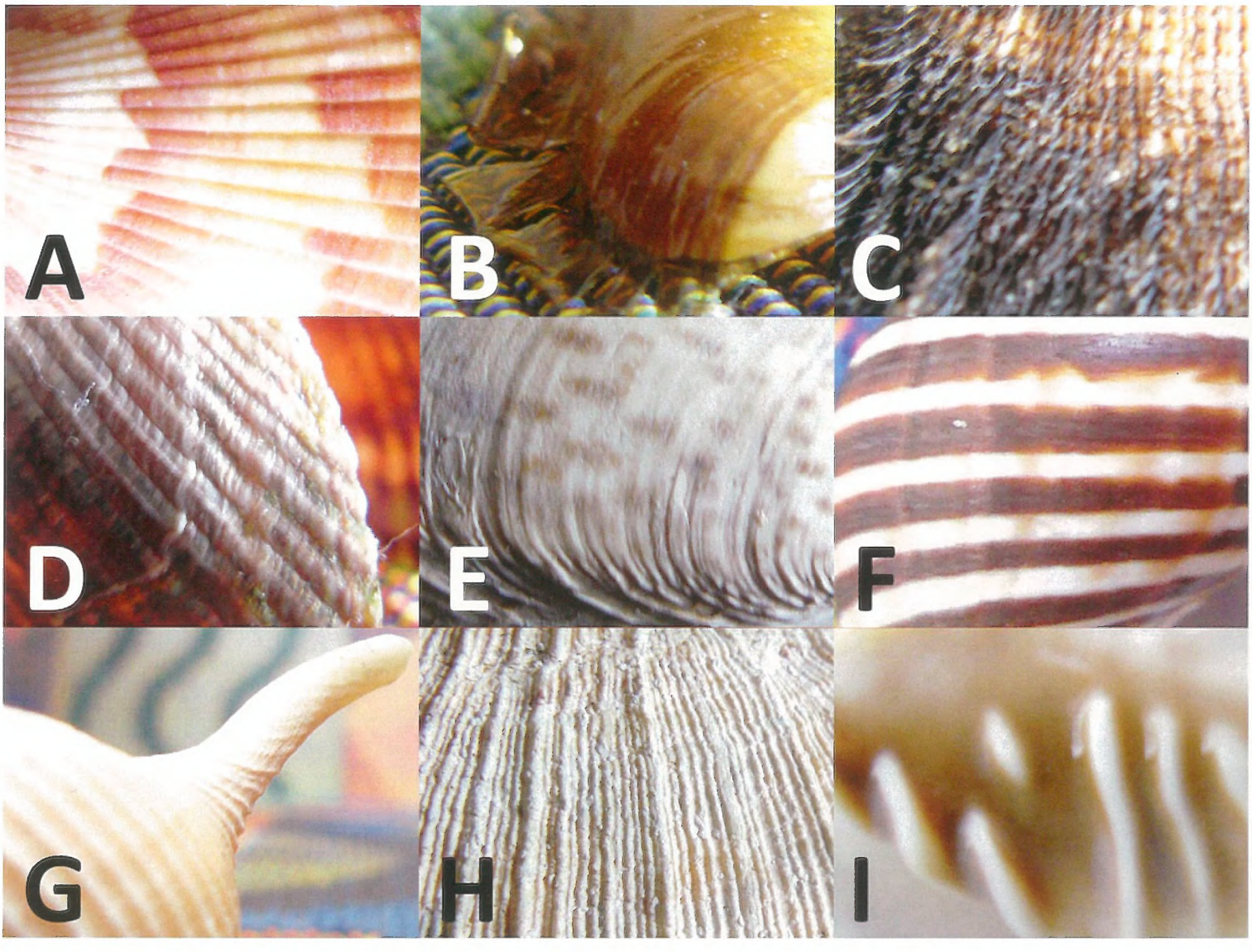
COOKIA

Journal of the Wellington Shell Club, New Zealand
VOLUME 26, NOVEMBER 2014

SHELL ETCHINGS
WHAT IS A SUB-SPECIES?
CHATHAM ISLANDS TRIP
WILLIAM SWAINSON
SMALL IS BEAUTIFUL
WASH-UPS

This year's competition



The challenge:

To identify these nine common-to-uncommon New Zealand seashells, preferably without using the hints below. Solutions on the back page.

The Hints:

A: 1 related NZ species, this is 60mm. B: Washes in on sandy beaches. C. Common.
D: Lives in nests. E: Mactridae. F: Bland Bay. G: 400m deep. H: Big, heavy,
expensive. I: Musical intrument

Contents

Cookia Volume 26, 2014

	PAGE
SOME REMARKS ON THE SUB-SPECIES CONCEPT by Kerry Walton	2-4
CLUB TRIP TO THE CHATHAM ISLANDS 4-16 December 2013	5-11
NOTES ON NZ COLLECTED SPECIES various contributors	12-15
A DIFFERENT *GARI CONVEXA* REEVE, 1857 by Bert van Tiggele	15
WILLIAM SWAINSON F.R.S., F.L.S by Mary Agnes Wotton	16-19
AUSTRALIAN INTERNATIONAL SHELL SHOW 7-9 February 2014	19
JEAN DELANY by Judy Hardie	20
BIVALVE WASH-UPS by Kris and Roger Woods	21
SMALL IS BEAUTIFUL by Fred Keil & Pete Cresswell	22-23
SHELL CLEANING by Fred Keil	23
SOME SMALL SHELLS FROM THE VERY FAR NORTH by Jenny Raven	24
COME AND SEE MY ETCHINGS by Jill Burnet	25
LITTLE TAUPIRI BAY by Fred Keil	26
WHAT SHELL COLLECTORS DO IN MIDWINTER by Pat Lakeman	27

Editorial

This is the third issue of *Cookia* produced by its current editors and it seems to be going strong. At least 17 club members have contributed to the varied contents of this edition - a remarkably high proportion of our membership.

The only regular feature is "Notes on NZ Collected Species" which focuses on interesting finds during the past year. Your editors aim for a mix of science and anecdote, serious and light-hearted, commonplace and aspirational- we want every club member to find something that appeals in every issue. Equally, we want every issue to maintain the proud tradition that *Cookia* has established since its first issue in 1976.

As always we hope you enjoy this issue and our thanks to all our contributors - past, present and future.

Some Remarks on the Sub-species Concept

by Kerry Walton

I am often asked to assign a sub-species name to a specimen of *Haliotis virginea* or to deep-water specimens of *Cominella nassoides* that do not conform to the named sub-species from the area they were collected. In assigning a name, I will often begin a little spiel about what I have termed the 'sub-species problem'.

Before I elaborate, I will briefly explore why even defining a species is often not as clear-cut as we'd like to believe. Let's look only at sexually reproducing species to make this task slightly easier on ourselves.

Some biologists will define a species as *a discrete population of individuals capable of reproducing*. This, at first seems a perfectly reasonable description but there are cases where this definition doesn't quite fit. Domestic dogs for instance. Were you to leave 10 male Great Danes and 10 female Chihuahuas to a romantic night on the deck it is unlikely that you will get a litter of puppies – but genetically the two breeds of dog are remarkably similar – undoubtedly they are the same species.

To continue with a canine example, the Grey Wolf and the Coyote are quite different from one another: their niche, prey species, hunting behaviour, social structure, and appearance – all are readily identifiable as being that of one species or the other. Few would argue that they are the same species – yet they are capable of producing fertile hybrid offspring.

Salamanders of the Western United States are a text book example of what is known as a 'ring-species'. There is a gradient in Salamander morphologies (appearance) smoothly transitioning from north to south along the seaboard. Neighbouring populations are capable of interbreeding but take individuals from either end of the morphological continuum and they cannot interbreed.

The question of course is one of definition. Do we have one species or more in the Salamander complex? Humans, in our insatiable need for order, created taxonomy. In fact no one definition of 'species' covers all species such that one textbook remarks laconically that *a species is whatever a reasonably trained taxonomist tells us is a species*.

Charles Darwin believed that *the issue is that we are trying to define the indefinable* - this being based on the idea that any 'species' is in a state of flux due to the ever-changing nature of the world and the constant evolution of species being undergone just to keep up with the environment (think of virus resistance). Biologists term this the Red Queen Hypothesis after the Alice in Wonderland reference that we have to keep running just to stay where we are.

Were you to go down to the Wellington foreshore and pick up a *Cominella virgata* and travel back 1,000 years, 100,000, 1,000,000 years, and place it next to the whelks from which it is descended, would it interbreed? The further back you go the less like the living whelk the ancient whelks would be. At one

And a scallop with dodgy vision?

The following is an extract from a light-hearted series of definitions from before the days of DNA tests and molecular evaluation (but entirely consistent with Kerry's remarks above):

WHAT IS A SUBSPECIES?

An apprentice species. A geographic race obviously and consistently different from the typical species but potentially still able to interbreed with it.

WHAT IS A FORM?

Imagine a cross-eyed scallop. Some idiot would be sure to name it as a new species or subspecies, when in fact it would be neither. The name would be a synonym of the species name and would have no standing, but if you wanted to call attention to your cross-eyed scallop you could put this name and the idiot's (preceded by the word **form**) after the correct name and author.

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point there would be no question of it – you are looking at a different and now extinct species – but since it's lineage lives on in evolved form (in the form of *Cominella virgata*) – where do you draw the line distinguishing the species?

As far as taxonomic divisions go, the 'species' is the only real one. By this I mean genus and family level divisions are entirely the construct of taxonomists and the amount of variation one is willing to encompass within one or the other, the degree of difference required to erect a new genus for instance, varies from scientist to scientist. The species is the only taxonomic grouping that is discrete (acknowledging the aforementioned difficulties in that definition!) and influenced by the environment. Once speciation has occurred the evolutionary trajectory of each new species is independent of the other. Genera therefore, do not evolve. Differences between related species do and when a group of related species have diverged sufficiently they might be placed into a separate genus.

A sub-species is the taxonomic level below species and is often defined simply as such with the implications being that it encompasses a degree of variation from within the total population of the species and that variation is always less than the amount of variation required to consider it a different species. By this definition, the sub-species concept in most of our minds would be sound and I might more gladly assign your *Haliotis virginea* specimen to either the 'sub-species' *crispata* or *virginea*. But this too has varying and debated definitions.

Jim Harding's selection of *Haliotis* specimens from Ngamotu Beach.

Usually, however, the sub-species concept has a geographic component. A sub-species then is a morphologically distinct (looks different) and geographically separate population. Where this would be applicable looking at the current mollusc taxonomy from New Zealand, would be in many populations of *Powelliphanta* landsnails. Often, each hilltop has a population where the shells are distinct to that population such that on presenting me with a shell, on examining a large enough reference collection, I would be able to tell you not only its species and sub-species name but which hill it came from.

Powelliphanta too provides a nice example of where the sub-species label is incorrectly applied – a sub-species should be geographically distinct from another – you cannot get 'hybrids of sub-species' unless you

were to translocate individuals. Where you might think that, you would be better to imagine that you are just seeing the natural variation within a population.

Returning to my on-going *Haliotis* example, figured on page 3 is a remarkable collection made by Jim Harding over a series of visits to Ngamotu Beach - a sandy 500 m stretch near Port Taranaki in New Plymouth. *Haliotis australis* and *H. iris* comprise most of the first and second columns, and the rest of the shells are examples of *H. virginea*. When I was asked what sub-species of *H. virginea* they were, I was reminded of the descriptions of the range of *H. v. crispata* in Powell's 1979 manual. This I disregard at once as specimens of *H. virginea* from Whitireia Park near Porirua are indistinguishable from *H. v. crispata* from the Far North south to Mahia whereas specimens from Wellington's South Coast more resemble *Haliotis virginea virginea*.

With regard to Jim's series, clearly most of these specimens conform to the original description of *H. v. crispata*. Equally clearly however, at least four of these specimens from the same beach align to the *Haliotis virginea virginea* morphology – ergo, we have two named sub-species from the one beach. Instead we would be better to consider them as being named forms.

Specimens of *Diloma subrostrata* from Kaikoura, collected by Bev Elliott. Due to the widely variable appearance within this species, shells such as these were once named *D. subrostrata novazelandiae*, but (to Bev's regret) all are now *D. subrostrata* because genetic variation across widespread populations is very low.

Often such morphoforms – distinct looking phenotypes – can arise from very little difference genetically; perhaps a mutation resulting in the changing of a single base-pair (out of billions of base-pairs) could alter the appearance significantly. As such, genetically the two morphotypes (which also occur sympatrically at Auroa Point in Mahia) will likely prove more related to one another at New Plymouth than to the corresponding morphotypes from other locations as the millions of base -pairs not coding for appearance will be more similar.

Such genetic approaches were used to justify the synonymy of the distinct looking Fiordland form and other named sub-species of *Diloma subrostrata*.

The taxonomic division of species into named sub-species and forms seems to me a little pedantic and often unnecessary given that such radically different appearances are seldom reflective of genetic difference, biologically the species is the smallest discrete unit, and that New Zealand alone still has over a thousand species of which we are aware awaiting formal description and naming.

Neothais smithi (Brazier in Etheridge, 1889)

by Bev Elliott

Jenny Raven's item about *Neothais smithi* in *Cookia* 2013 brought back memories. My only visit to Spirits Bay was in 1975, with Peter Jamieson and Bruce Hazelwood. One morning I was at the island at the end of Spirits Bay (Pananehe Island) on the early morning low tide, when I spotted a *N. smithi* down in a narrow rock crevice. But as eager fingers reached for it, it dropped away beyond reach. Not the slightest hope of obtaining it. I carefully memorised the exact spot, and returned, not very hopefully, on the evening low tide. When I peered into the crevice, there were one, two, three of them there! I didn't drop them this time! Not to be outdone, Peter searched until he had also found three. I don't know if Bruce found any and it's too late to ask him. At a later date, Peter decided to collect just land snails and some of his marine treasures came my way. So now I have 6 *Neothais smithi*, all approx. 20 mm, all live taken at Pananehe Island, Spirits Bay, one day in June 1975; 4 perfect, and 2 slightly encrusted.

Club trip to the Chatham Islands

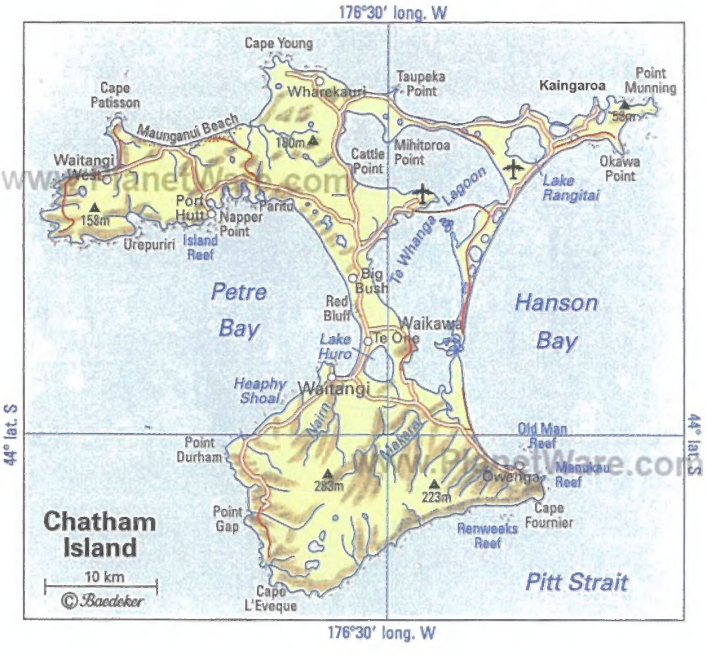
4 - 16 December 2013

Nine club members – Kathy Carson, Linda Daniel, Pat Lakeman, Jenny Raven, Graham Aamodt, Kevin Burch, Kevin Mead, Bert van Tiggele and Kerry Walton – met in Wellington to fly to the Chathams. By evening we were settled in to the Beach House just south of Waitangi. Petre Bay was at the end of the garden, so of course we went for a walk along the beach …

Some of our group had been to the Chathams before but for Kathy, Linda, Kevin Mead and Kerry it was their first visit. Here are some of Kerry's impressions:

"The Chathams represent an island chain with considerable land area and coastline that is approximately 700 km from the mainland. It is rugged and windswept. Despite being at roughly the same latitude as Christchurch it is considered to be a Sub-Antarctic island and under this title, upon imagining one of the frequent storms passing through (which they thoughtfully placed on hold for our visit), one can imagine it would feel well placed. What's more, it teems with life. Sea birds, a diverse array of algae densely packed into every available space, fish galore and molluscs too. Even paua and crayfish, despite considerable fishing pressure remain at a state of such abundance that one can reasonably easily collect their quota and with a minimum of effort.

This landscape is shaped by millions of years of volcanism and in many areas picturesque volcanic cones remain resolute, erosion not yet having made too heavy a mark, a reminder of the island's violent past. Huge deep-water ocean currents sweep along the south of New Zealand turning north and following the Chatham Rise. They drive not only the distribution of nutrients and sea life but also the weather patterns that give the Chathams the superficial appearance of an island group that belongs much further south in the Southern Ocean."



Our first full day was earmarked for a drive to the area of coast beyond Owenga, followed by a visit to Tommy Solomon's memorial at the southern end of the road. South of Owenga there are large rock platforms exposed at low tides, the huge rock pools teeming with examples of the sea life that Kerry refers to: paua everywhere, nudibranchs on the luxurious seaweeds and the undersides of rocks covered with the eggs of *Cominella maculosa*. Live *Buccinulum linea* were a nice find in sandy crevices quite high on the rock platform. But Graham was "all primed for a bit of fishing off the wharf" and for him too there was a rich harvest:

"The first thing needed was some fish bait, so a quick visit to the Waitangi store should sort this out. How wrong I was, both the store and the hardware shop next door had no fish bait – we were in the Chathams were we not? The hardware store retailer suggested going to the Waitangi fish factory. I got there and spoke to the factory manager and all he could offer was some week old stinky crayfish from one of the outside bins. Well, I thought, it's better than nothing, and off we went, but phew did it smell out the van.

We parked the van at the Owenga wharf and I went out to the end and started fishing, while all of the others scrambled down to the beach and started to fossick. Even at the end of the wharf the bottom was at most only 3-4 metres deep. You could see the bottom and some decent sized fish milling around. Within 15 minutes of casting out, I hooked up to a sand shark that was about a metre long – it didn't

fight much though it was heavy to pull in. Then I fished with a spinning rod using the crayfish as bait. Very soon a few moki started sniffing around and wolfed down the bait hook and all. Then it was all on – moki do give a good account of themselves in the 'I don't want to be on your dinner plate' category and after a good tussle I finally landed the fish. It was about 7kg and would give us all a feed.

The next fish on the agenda was a good size blue cod, well beyond the legal measure, quickly followed by a kahawai of about 3kgs; between rain showers I managed to gut and bleed the fish. After about 3 hours and another catch and release (smaller school kahawai) Kerry turned up and had a go at fishing. I caught another moki of around 5kg and as the tide was low, walked this fish on the line down the wharf to Kerry who waited on a rock platform at the start of the wharf. After Kerry landed the fish, we collected the other fish and placed them next to the van just as the others turned up.

This was a most successful fishing trip that fed the crew for about 4 meals and then some. I did go back to Owenga and, using the rag tag bits and pieces of fish from the earlier haul, caught nothing but spotties - so I must say that the secret is to use as bait crayfish that is well past its use by date."

The following day we took advantage of a very good low tide to walk beyond the wharf at Waitangi. Again there are large rock platforms here that drop away into deeper water and without a good low tide the area is inaccessible. Live *Cantharidus opalus* were seen frequently on weed in the large rock pools. Jenny found 2 large, live, cream buccinulums (reported page 14) and both Jenny and Kerry reported live *Modelia granosa*. There was also interesting shell sand.

While we were still based at Waitangi, trips were made to Port Hutt, Jenny's Reef, and the area to the north of Owenga. The latter starts as smaller beaches in between rocky outcrops, rises to the massive shell beds that readily absorb hours of shell collecting attention, and then opens out into the long expanse of sandy coast that is Hanson's Bay. Live *Cominella nassoides iredalei* were found here, and plentiful *Gari convexa*, though the often abundant *Haliotis virginea morioria* were scarce on this occasion.

On Monday 9 December we transferred with all our gear to Kaingaroa in the north. On the way we stopped at Blind Jim's Creek to find fossilised shark teeth, and we re-visited Port Hutt and the coast beyond at Waitangi West. Both Jenny and Kevin Burch had made prior contact with local residents in Port Hutt, and Jenny offers a comparison of this trip with her three previous visits to the Chathams:

"The larger group size meant more competition for shells but the wider mix of talents possessed by the group particularly in talking, fishing and boating with the locals was beneficial - it resulted in trips out on the dredge and cray boats and shells for our gift pool.

Making contacts in advance was useful but don't expect shells to be collected in advance. In the event only two contacts came up with shells. Kevin, a factory owner at Port Hutt, supplied a mix of local shells and, surprisingly, a good *Semicassis royana* from the far north of New Zealand which was obviously the result of an earlier trade. The *S. royana* and *Alcithoe wilsonae* were particularly welcome. (Also in the Port Hutt area, a fisherman contact of Kevin Burch's provided us with some *Astraea heliotropium*.) Keeping up with contacts from earlier trips was worthwhile. My fisherman friend Martin, who I befriended on my 1997 trip gave me the Port Hutt contact and made us most welcome with his friends at the Kaingaroa Club. He also provided two huge crayfish on the last day. At Kaingaroa I was able to experience the club's community dinner for the first time – a magnificent feast of local delicacies.

I now know the endemic Chathams keyhole limpet *Monodilepas skinneri* is reasonably common at Taupeka Point. Because washup material was not as good as previously we spent more time on our hands and knees sifting through the shell grit. This resulted in numerous good sized keyhole limpets and for Kevin Mead, the finding of *Trivia merces* in the grit. A 'trivia' had not been recorded from the Islands since two were noted by Finlay in 1928 so it was great to witness the find and confirmation of what had previously been considered a dubious record (since this is often thought to be a warmer water species).

I had not visited Point Munning on previous trips. Besides viewing the seal colony it was the only place where we found *Haliotis virginea morioria* in any quantity. They were on the gravel beaches off the track on the right hand side before the seal colony and on the beaches by the old missionary station

A) Looking west from Waitangi B) Washing algae for micro-species beyond Waitangi Wharf C1-3) Nudibranch, starfish & Sea anemone; Waitangi & Owenga rock platforms D) Near-legal-size paua abounded past Owenga wharf E) A live *Haliotis virginea morioria*, 30 mm, Kaingaroa F) KB & Graham after paua G) Our Waitangi accommodation H) *Cominella maculosa* with egg masses I) Paua processing J) Owenga rock platforms

off the Point Munning road. These beaches are close to and on the same coast as Okawa Point which had been so profitable on earlier trips. Access to Okawa Point is now closed off so Point Munning is a good alternative.

While I found less shells than on previous trips, I was pleased with my *Buccinulum* finds (see page 14) as both *B. pallidum* and *B. pertinax* are rare low tide finds here. As always the Chathams was a wonderful place to visit. Every visit seems to bring with it adventures that add to the charm and my memories of the Island."

During our week based at Kaingaroa, Kerry and both Kevins were able to go out on local boats. The result was more fish and crays as well as terrific dredged shells which were put into our gift pool. Paua are abundant near the Ultimate Hideaway which was our accommodation. Nearby too the Kaingaroa Club where the hospitality is indeed excellent. In almost every direction there are great places to explore - we visited Taupeka Point and Point Munning from here, saw the historic dendroglyphs at Hapupu Reserve and walked through to Hansen Bay beyond, visited Ocean Mail Reserve where there are wetland and Aster (daisy) walks near the north of the lagoon, and the coast east of Kaingaroa offers a seemingly endless walk along isolated and pristine beaches punctuated by occasional huge rock outcrops. Kathy Carson looks back on her trip:

"The weather was superb for my first visit to the Chatham Islands. I was surprised by its landscapes of rolling peaks and the rugged scenic coastline. It was a paradise as there was so much to do and see. Some of my highlights were collecting the abundance of paua which were everywhere, and dining on fresh crayfish and fish.

When we visited the beach at Taupeka Point we turned over heaps of rubble to find *Monodilepas skinneri*. The rock pools at Kaingaroa were amazing and we saw live *Aplysia juliana* hiding under the weed. There was heaps of marine life in the rock pools including *Montfortula chathamensis*, *Dentimargo cairoma* etc. There were so many beaches to explore and at Hapupu Reserve there was a brief stop to collect some land snails, *Thalassohelix chathamensis* and *Phrixgnathus rakiura*. An interesting stopping point was Blind Jim's Creek on the Te Whanga Lagoon. Here we hunted the shores for fossilised shark teeth which were glossy blue-black in colour and also fossilized sea anemone spines from a bygone era. Our accommodation was good and well selected with a fantastic view from the house at Kaingaroa. On returning home I have had hours of fun sorting out shell sand for those micro shells. A great experience."

Bert was another member of the group to enjoy the hunt for shell specimens at the small end of the scale:

"I collected larger shells by picking them up directly from the beach, but at places with fine shell grit, I collected the grit in plastic bags for examination at home, to look for smaller shells with a microscope. The beaches of the Chatham Islands seem to be very rich for collecting shells. Between us, Kathy Carson and I have identified around 200 species from our collected material during this trip." (Ed. note: we hope to carry this list of finds, incorporated with previous shell lists from the Chathams, in our next issue.)

Thanks to Kevin Burch and Graham's efforts in the clear and calm (but cold!) water on our last weekend, assisted by Kevin Mead on measuring duty, all of us who wanted to were able to take home cleaned and prepared paua. On Saturday night we enjoyed a splendid evening – with Kaingaroa Harbour looking its very best in the late sunshine – at the Kaingaroa Club. Kerry set out our gift pool of shells on Sunday morning, which was allocated by drawn lots. Kathy got first pick and chose the *Semicassis royana*. A spectacular *Calliostoma tigris* was snapped up by Graham; and *Calliostoma granti* and *Talochlamys gemmulata* were other popular selections. Later on Sunday we returned to the Beach House at Waitangi to stay one more night before our flight departed on Monday morning.

A trip such as this one can be both fun and enjoyable for a group with a range of levels of interest. But there is also much knowledge that that can be learned and added to science, and Kerry concludes here with some more scientific remarks and observations about the shells of the 2013 Chathams trip:

"Perhaps what seems most remarkable about the Chatham's molluscan fauna is the paucity of endemic species. This can be illustrated by looking at the array of species found on other 'off-shore' islands such as the Poor Knights which are a mere 40 km from the mainland yet are swathed in locally endemic species such as Cypraeids and *Kurodavolva wakayamaensis.*

The Chathams has a very low species-

A) Our Kaingaroa view B) Snailing C) Graham's Red Moki D) Moriori dendroglyphs E) The Volcanic landscape F) Flax in bloom

level endemism in its marine mollusca fauna and only a few landsnails. *Cantharidus fulminatus* and a species of *Buccinulum* (the taxonomy of which is currently under revision) are two examples of common marine species. *Monodilepas skinneri* is often listed as endemic to the islands but until the group is revised taxonomically I'll not include it here.

The ecological distribution of any species can be the result of a range of factors. Abiotic factors such as temperature, salinity, lack or excess of nutrients etc. often determine the distribution of species. For marine invertebrates like molluscs it is common to see distribution apparently limited by temperature with a thermal isocline delineating the lower limits of their thermal tolerance range on either sides of the country. To illustrate this let's look at the New Zealand distribution of the warm-water species *Cymatium exarata* which has a New Zealand distribution from North Cape south as far as Mahia on the east coast and not south of North Cape on the west coast – this being the region of New Zealand affected by the warmer waters of the East Australian Current. The Chathams has both water conditions and community compositions similar to the south of the South Island.

Many species one might expect to find at the Chathams however, one does not. Species common in the south of the South Island, like *Lunella smaragdus*[1], *Alcithoe arabica*, *Haustrum haustorium, Cantharidus purpureus*[2] and *Penion sulcatus* of which all except for *Lunella* have direct developing larvae - larvae which hatch out of eggs and have no planktonic stage. Dispersal then might be a limiting factor for many species.

Some intertidal or shallow sub-tidal species have been known to hitch a lift on floating bits of kelp in what is termed 'kelp rafting'. Molecular connectivity between many inter-tidal, non-planktotrophic species such as *Cantharidus roseus* has been attributed to this mode of dispersal between the South Island and New Zealand's other Sub-Antarctic islands[3].

Many species grow exceptionally large on the Chathams compared to their mainland compatriots. *Tanea zelandica*, *Haustrum lacunosum* and *Modelia granosa* are some common and obvious examples when beachcombing. Other notable record sized specimens[4] include *Barnea similis*, *Cantharidus opalus*, *Cominella maculosa*, *Emarginula striatula*, *Paphies subtriangulata*, *Tawera spissa* and who can forget the two huge *Haliotis virginea* collected by Pat & Jenny from Taupeka Point and Waitangi respectively. On this trip I collected the world record sized *Dosinia maorum* (48 mm) from Owenga where many such monsters were washing up and specimens of a few species which were close contenders for a title.

In terms of material collected, a number of new records from the Chathams were obtained. Unless otherwise specified, all specimens I collected and deposited at NMNZ. These include a large black *Aglaja* species (shell ~5mm & heavily calcified) resembling *Melanochlamys cylindrica* in shape and colouration which was collected live intertidally on coralline algae at Kaingaroa. A *Lamellaria cerebroides* was collected at Taupeka Point and a live *Cymatium*

parthenopeum dredged in 80 m off of Kaingaroa. A second beached specimen of this cosmopolitan (= having a world-wide distribution) species was found at Ocean Mail Beach by Kathy Carson suggesting that perhaps this species was until now unrecorded by oversight. Oyster boat Captain Stu Muirson recognised the species as "not too rare off Kaingaroa".

Many live specimens of a large black *Aplysia cf. juliana* that were 20 – 25 cm long (shell 20 – 30 mm) were found intertidally at Kaingaroa feeding on *Ulva sp.* of which their guts were full, in a shallow sand-bottomed sheltered surge channel. Two much smaller specimens, each roughly 10 cm of a lighter brown colour were also found. A single specimen of the latter, perhaps a juvenile form, perhaps a second species was collected along with two of the larger and placed in ethanol. In total I would have seen 30 individuals. On the underside of a large (~1 m) boulder I came across six individuals and numerous yellow stringy egg masses.

A most noteworthy find was Kev Mead's *Trivia merces* from Taupeka Point. For certain it wasn't a species I had been looking for although the coast there resembles Lottin and Auroa Points on the North Island where *Trivia* can be collected with reasonable ease.

Three specimens of a very distinct form of *Buccinulum* were collected dead from a craypot on Waitangi Wharf. Which species these represent, if a named species at all, I would be unwilling to commit to.

The considerable craypotting and trawling activity around the islands is the likely cause of the appearance of several deep-water species washing in at Owenga. I know of three specimens of *Provocator mirabilis*, several *Fusitriton laudandus* and a couple of fragments of *Aeneator recens* collected by Club members in recent years including all three species on this trip, all of which seldom occur in less than 100 m of water if that shallow at all.

Excellent molecular grade material (i.e. specimens with tissue placed in a high percentage ethanol solution) was collected and will hopefully be used to resolve some questions in taxonomy that morphological characters of the shell alone cannot conclusively explain or disprove. *Austrofusus* specimens of both the 'chathamensis' and 'glans' morphotypes from multiple sites should prove whether or not the much questioned *A. chathamensis* name is valid. *Cominella nassoides* of the sub-species 'iredalei'[5] should help to determine the degree of relatedness and so taxonomy of the various named forms and populations of this highly variable species. A single live specimen of *Haliotis virginea* was collected under an intertidal rock slab at Kaingaroa and could prove useful in determining the best approach to describing the variation that exists within this species. Divers note that this species is most often found in the shallow-sub-tidal down to at least 15 m.

The genetic relationship of mainland and Chathams populations of *Montfortula chathamensis* and its relationships to Australian species too will prove interesting. Specimens were collected live from Owenga, Port Hutt, Taupeka Point and Kaingaroa, curiously from different habitats. At Port Hutt and Kaingaroa exceptionally large and well-sculptured specimens were collected under intertidal rocks from the mid-tidal zone down to the extreme low tide. At Owenga and Taupeka point all live specimens I encountered were from very similar and in particular stagnant small high-tidal pools filled with a filamentous green alga and *Zeacumantus subcarinatus*. The shells were smaller and heavily eroded. These latter observations agree with where *Montfortula* has been collected live in Wellington[6] and around Kaikoura. The implications of this are unclear, I do not expect molecular results to reveal two species but why two significantly different and apparently very specific habitat types are observed I cannot say."

Footnotes:

[1] In fact this HAS been recorded from the Chathams but only as a few old shells in the vicinity of Maori midden sites and I suggest that it is not established there.

[2] Larvae presumed to lack pelagic stage but unstudied.

[3] Raisa Nikula, Hamish Spencer & Jonathan Waters (2013) Passive rafting is a powerful driver of transoceanic gene flow *Biology Letters,* 9 (1).

[4] According to the Auckland Shell Club's Checklist of World Record Sized New Zealand Shells.

[5] Which, incidentally, I suggest intergrades morphologically with the fossil specimens occurring sympatrically at Owenga which are described as the sub-species 'consobrina'.

[6] Bruce Marshall pers. comm. 2013.

Photo credits: Kevin Burch; Kathy Carson; Pat Lakeman; Jenny Raven; Bert van Tiggele.

Map: http://www.nineofcups.com/New_Zealand_Chatham_Islands.html

A) Chatham Is crays B) Graham & Kev with dinner C) Aboard FV Harvest D) *Cymatium parthenopeum*, 108 mm, dredged in 60 m off Kaingaroa E) A dredge haul from off Kaingaroa F) Aboard FV Diane, one of two 8-foot dredges G) Collecting at Waitangi West H) Returning from Jenny's Reef I) Taupeka Pt wash-ups J) The Owenga haul K) Owenga shell-banks L) Deep-water species from Owenga

Notes on NZ Collected Species

Janolus ignis Miller & Willan, 1986

This beautiful Fiery Nudibranch was collected by Bev Elliott at Kaikoura, in September 2013 and photographed by her in the Kaikoura Aquarium. The egg mass appeared in the tank containing *J. ignis*, in November 2013. *J. ignis* egg masses have been reported by Millar & Willan as orange/pink; these are white but it is difficult to speculate what else they could be; the difference could be due to their artificial environment in this case.

Reference: MILLER, M.C & WILLAN, R.C. 1986. A review of the New Zealand arminacean nudibranchs (Opisthobranchia: Arminacea). *NZ Journal of Zoology* 13 (3): 377-408.

Montfortula chathamensis

Finlay, 1928

These large specimens were found live by Kevin Burch and Kerry Walton at Port Hutt, Chatham Islands, December 2013.

Aplysia sp.

Many live specimens of a black *Aplysia cf. juliana* (20 – 25 cm long) were found intertidally at Kaingaroa, Chatham Islands, December 2013.

KERRY WALTON

Trivia merces
(Iredale, 1924)

Found by Kevin Mead at Taupeka Point, Chatham Islands, on 13 December 2013. Only the second (and first reliable) record from the Chatham Islands.

Calliostoma tigris
(Gmelin, 1791)

Dredged on sand at about 70 m, this handsome tiger shell measures approx. 80 mm high by 75 mm wide.

NW Kaingaroa, Chatham Islands.
F.V. Diane, December 2013.

GRAHAM AAMODT

Ceratosoma amoenum (Cheeseman, 1886)

This nudibranch (Family: Chromodoridae) was found at Auroa Point Mahia at extreme low tide. I took this beauty back to my campervan and put it in a plastic cup for the photograph, and then released it back into its element.

FRED KEIL

Chathams *Buccinulum sp.*

The two large *Buccinulum* shells shown at left below were found on the Wellington Shell Club trip to the Chatham Islands in December 2013. They were found within about 30 m of each other at extreme low tide on the exposed rock platforms south of the Waitangi wharf. Molecular techniques identify the left specimen as *Buccinulum pertinax* and the right as *B. pallidum*. The *B. pallidum* is 46 mm in length and was in a rock crevice temporarily out of the water. The *B. pertinax* is 50 mm in length and was in a nearby rock pool partly buried in sand. It is more squat, has axial ribs, a thinner lip and a smaller protoconch than the *B. pallidum*.

The shell on the right is a mystery. It was found on the same trip in a craypot on the Waitangi wharf still containing the remnants of the animal. It is a species of *Buccinulum* although which one cannot be said for now. *B. vittatum* is common on the Island but all others I have seen have been smooth whereas this shell has definite axial ribs picked out in white. *B. pertinax* has ribs but this shell at 25 mm appears to be an adult. A pity the shell did not contain fresh tissue for DNA testing. Maybe a future trip will resolve the mystery!

JENNY RAVEN

Coralliophila squamosissima

(E.A. Smith, 1876)

These two specimens were found alive by Eric Scott and his son-in-law on Pananehe Island, Spirits Bay, on 12 October 2013. They were found in separate small low tide rock pools on the right hand side of the island looking at it from the beach. The larger shell is slightly damaged around the anterior end but the smaller one is almost perfect.

Athoracophorus sp.

These native slugs were photographed in rifleman nest boxes in Kowhai Bush at Kaikoura, in June 2014.

(Ed. Note: NZ has numerous *Athoracophorus* slugs of which many are undescribed.)

BEV ELLIOTT

A different *Gari convexa* Reeve, 1857

By Bert van Tiggele

In December of 2013, when nine members of the Wellington Shell Club were on the Chatham Islands, we found many well developed, pink specimens of *Gari convexa* Reeve, 1857 on the beach north of Owenga at the southern end of Hanson Bay.

On that same beach I also found a complete white double valve of *G. convexa*, still in good condition, with the top muscle in place. The exterior as well as the interior of its valves are white. They don't show the radial colour zones that normally intersect with the concentric bands and are still in a shiny condition. The concentric bands also lack colour, but are well defined. The length of the white shell is 56.5 mm and height 28 mm. The thickness of the right valve is 7.5 mm, and of the left valve 5.5 mm - in total somewhat smaller than the typical pink specimens I collected.

Shells of *G. convexa* can vary in colour, and can be found throughout New Zealand including Chatham and Stewart Islands. It is not clear if the white shell is an albino form or weathered, or changed in colour by other external influences. (Ed. note: such specimens have been collected in good condition at this location on previous trips to the Chathams and also at Braggs Bay on Stewart Island.)

Reference

WILLAN, R.C. 1993. Taxonomic revision of the family Psammobiidae (Bivalvia: Tellinoidea) in the Australian and New Zealand region. *Records of the Australian Museum, Supplement 18: 1-132.*

Photos below, L to R: White *Gari convexa*, showing details of the interior and exterior; *Gari convexa*, top normal colour, under white.

William Swainson F.R.S., F.L.S

by Mary Agnes Wotton

Most shell collectors are familiar with the name of William Swainson in connection with conchology but, like myself, might not have been aware of his wider reputation. He was an unsurpassed illustrator of birds, molluscs, plants and other natural creatures, not to mention his sketches made of places visited during his career with the Commissary-General (Supply Corp) of the British army of occupation based in Palermo, Italy (1806-1815). His sketches of Wellington, to which he emigrated with his family in 1841, are some of the most valuable pictorial records of the city's earliest years. My interest in Swainson stemmed from a chance remark to my friend Anne Eustace (nee Halcombe) about my hobby of shell collecting when she told me that she was a 4th generation descendant of William (her great great grandfather) through his daughter from his second marriage, Edith Stanway Halcombe.

William, in his own words, had "a passion for natural history even when a small child and every spare moment I could command was divided between drawing and collecting." His father John Timothy Swainson, a Collector of Customs, in his spare time was a naturalist and a foundation member of the Linnean Society. During his time in the army, William amassed vast collections from Mediterranean countries which he visited, studying zoology and botany in his spare time and making sketches of shells, fishes, birds and flowers as well as landscapes. Ill health caused him to retire from the army and on his return to England he began pursuing his interest in natural history more seriously and became a Fellow of the Linnean Society. Supported by Sir Joseph Banks, he was also elected a Fellow of the Royal Society in 1820.

In 1815 Swainson went on a three year expedition to Brazil, again amassing considerable collections especially of shells, insects, birds and ferns. However, on his return to England he was largely ignored by the scientific community in spite of his membership in the Linnean Society – he was an amateur naturalist who had collected unscientifically for the trade in natural curiosities. He had "a portfolio of drawings, representing the most striking and picturesque vegetable scenery, together with maps of the different routes pursued. It was printed without any comment or one word of praise. "*I abandoned all intention of publishing them in a separate work. I was discouraged by the idea, that the unpatronised researches of an unknown individual might probably be thought insignificant, when compared to those of naturalists sent out by governments, and which the editor lavishly praised in the same number of his Journal.*" He mentions this to show how the feelings of young authors may be influenced and their "energies repressed". As he had no academic qualifications, in 1820 Swainson to his acute disappointment, was passed over for a position as a keeper at the British Museum for

William John Swainson

Picture credit: http://en.wikipedia.org/w/index.php?title=William_John_Swainson&oldid=624255919

The illustrations above and below left are by Swainson and appear in his book, *Exotic Conchology.*

Swainson's grave, pictured below, is among the trees behind the Lower Hutt Library. Photo: Pat Lakeman

which he had applied, although he had impressive testimonials.

In 1820 Swainson met Mary Parkes at the Mayor's Ball in London, attended by 900 people. She was an inveterate writer and kept a pocket book diary at this time where she recorded her meetings with Swainson. On 29 Nov. she wrote "*We spent three hours with Mr. Swainson and Mrs Traill was with us, looking over his rich collection of shells, insects and birds. No gratification can be higher than that of being allowed to participate in the enjoyments of a mind so rich and elegant as his. His shells are most choice and picked and he possesses many which he believes are solely his. The cardiums are magnificent and most choice. The cypraeas (sic) are a great pride to him for he has a beautiful series of old and young of this species. For the spindle shell he has been offered thirty pounds and if he had bought two of his cardiums they would have been worth five pounds each. The nautilus is the largest ever seen is worth twenty guineas and the wentle trap is magnificent. The turbos are most beautiful and the pectens – in short – all…..*"

Around this time Swainson's friend John Audubon, the world's finest bird artist, introduced him to the new technique of colour lithography. He began experimenting with the process as "something that might be used in producing zoological plates fit for colouring". This he brought to a high degree of artistic excellence. He worked hard for long hours. 1820 saw the publication by Longman of his "Treatise of Malacology: or, the natural classification of shells and shell fish". "Zoological Illustrations of new, rare or interesting Animals… from the classes of Ornithology, Entomology and Conchology" was published in 1821, the first of three volumes. It was produced in a series of monthly parts for which he paid himself and it was well received. The final volume was published in 1823. Swainson had already started working on his "Exotic Conchology", unable to issue more than four parts of the first edition in 1821-1822. A re-issue was published in 1834 with 16 additional plates and the second edition appeared in 1841; the year he emigrated to New Zealand. Original copies of this work are currently available between US$4,800 and US$7,600.

Swainson married Mary Parkes in 1823, his half-brother the Rev. Mr. Charles Swainson officiating, beginning the happiest and most productive years of his life. In 1828 the two spent 3 months in France, her parents looking after the two children, Willie born in 1824 and Mary in 1826. John Audubon accompanied them to France where most of their time was spent in Paris with Swainson regularly visiting the Museum. Mary Parkes kept a journal of their visit with the following entry for Oct. 7, 1828: "*I again went to the Musée and at three o'clock we went to the Prince Massena's to see again his rich cabinets of birds and shells. The latter are truly magnificent in their perfection, for they were Lamarck's and the Prince gave trente mille cent francs for the whole, and he is perpetually adding to it. It is not only one fine specimen of a species, but in most instances several fine specimens of the same shell. Where he has not the species, he places a drawing, and this is particularly the case with the Cones which is a most extensive collection, contained in two long divisions, on each side one range of drawers. I counted one hundred and sixty drawers. The shells are gummed on pieces of book binders board, coloured white, and each row divided by a strip of black wood; the Pectens were most beautiful, and the Patella were of surprising polish.*"

At the age of 45, Swainson was at the height of his scientific career and looked forward to extending his reputation as one of the world's

leading naturalists. Then, in February 1835, a year later, his beloved wife Mary died leaving him devastated and with five children to bring up. Everything seemed to be going adversely against him – his advocacy of the quinarian system, an unaccepted method of zoological classification, was ridiculed and his fortunes in other directions plummeted too. He became disillusioned and critical of the British scientific establishment which had failed to embrace his ideas, all of which inclined him to think there was no future for him and his family in England. It was then that he finally decided to emigrate to New Zealand. William was elected a member of the First Colony of New Zealand, and the New Zealand Land Company, as it was then called. He was also a member of the Church of England committee for the appointment of a bishop to New Zealand. Except for his shell collection and other less perishable objects, his other collections were sold to raise necessary funds.

William had advertised for a governess and engaged a Miss Ann Grasby. However, the New Zealand Company had strict views about unattached gentlewomen aboard ship and refused permission. A man might emigrate perfectly decorously with a wife in tow but not with a governess-help. William decided to marry her in spite of the children's opposition and Ann became William's second wife. They set sail for New Zealand in 1840. But Swainson's troubles had just begun.

Arriving at Port Nicholson on 24 May 1841 with his second wife and four of his children – the youngest Edwin was left in Gibraltar with foster parents – Swainson decided to live in Wellington, settling for the time being at High Cliffs, a house belonging to a Mr. Watt "at the further extremity of town". William's dream of pursuing his scientific interests at leisure in the new colony may have earned him near enough to a free passage, but there was small chance of realizing them: there was quite simply far too much to do. The family lived at Thorndon for two years while their house was being built on property purchased in the Hutt Valley. The floors of the house, called Hawkshead after the Swainson family's sometime ancestral village in Westmoreland, England, were laid down in January 1843. The doors and windows were still in Hokianga, having been delivered there as it was the Swainsons' original destination. It was not until June of the same year that the family moved into their home on the banks of the Hutt River – about where the Sacred Heart Convent was to stand later. By 1846 he was well settled in the Hutt Valley but after two laborious years, only a small portion of the property had been cleared of bush.

Though he worked habitually on his own, William had joined prestigious societies, readily accepting honorary membership on an impressive list of scientific bodies. But he considered science dead in this country – or at least stillborn. To make ends meet, Swainson sold off large collections which he had left behind in England but bad luck followed as a consignment of lithographic plates was wrecked off Cape Terawhiti and some of his bird and insect species decayed. He also had trouble with the Maoris relating to his occupation of the Hutt land. Finally when this was sorted out, he had a bit more time to devote to his old studies. He wrote to the naturalist Walter Mantell in October 1846: "*I seem now to have exhausted the Valley of the Hutt, as far as I can ramble therein, so that now I am directing my attentions to the inhabitants of the ocean, namely Shells. ... Animal Life is as little developed on New Zealand Islands as are honest men. To be serious, the land is geologically new, but then the Ocean is as old as the Creation and therefore should abound with animal forms peculiar to that element ... In England, for instance, we have but four species of Patella (limpets) while on the Port Nicholson rocks I have already found seven besides a new Syphonaria; other localities will no doubt possess other species, particularly as the rocky nature of all the Coasts are peculiarly adapted to these adhesive Molluscs. Mr. Taylor, also, stimulates me to a Conchology of New Zealand ...*" But in his usual fashion, he bit off more than he could comfortably chew: the conchology of New Zealand, the treatise on Adhesive Molluscs and the zoological chapter for the *Acheron* book – all remained unwritten.

Misfortunes continued for Swainson when in February 1848, a fire destroyed much of Hawkshead. Lack of money was a constant issue for him and in 1851 he sailed on the survey ship *Acheron* to Australia to arrange the sale of some land he owned. In August he received a letter from Walter Mantell advising him of his election as an honorary member of the NZ Royal Society. He replied "*... This is the first intimation I have received that such a Society was in being, or that there existed in Wellington generally, the slightest regard or appreciation for scientific pursuits.*" His letter was quite scathing and he declined the honour. Swainson remained in Australia until 1854 doing botanical surveys for the Victorian government.

On December 7, 1855, Swainson died of heart failure at his home in the Hutt Valley, living out the latter part of his

life in hardship, toil and frustration in a society that set little store by his skills. His grave is among the trees behind the Lower Hutt Library. Many of his papers, letters and mementoes were destroyed by his widow. Swainson helped swell the collections of many European museums, where other biologists put his specimens to better use, including Charles Darwin. Swainson named a number of molluscan species particularly in Mitridae Swainson, 1829, including *Mitra carbonaria* from Australia and New Zealand, and one in the genus *Cancilla* Swainson. His friend Broderip named one after him – *Mitra swainsonii*. *Canarium mutabilis* and *Theristrombus thersites*, both Strombiidae which can be found at the Kermadecs, were named by Swainson as was *Janthina globosa* which occurs in the northern North Island.

Originally named by Marwick, *Alcithoe swainsoni*, became a synonym of *Alcithoe arabica* (Gmelin, 1791).. Several bird species have been named for Swainson by various scientists, including Audubon.

References

NATUSCH, S. & Swainson, G. 1987. William Swainson of Fern Grove: The anatomy of a nineteenth century naturalist. Natusch, S & Swainson, G.M.

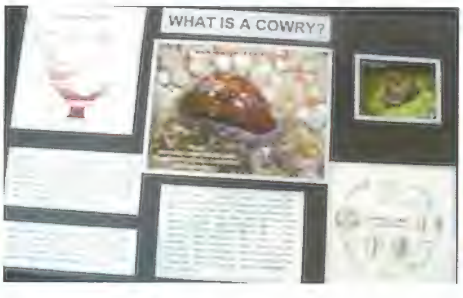
SWAINSON, G. 1992. William Swainson, FRS FLS, naturalist & artist: family letters & diaries 1809-1855. Final Destination, New Zealand. Swainson, G.M.

BROCKIE, B. 2001. The decline & fall of William Swainson. *NZ Geographic No. 50.*

SWAINSON, W. 1821-1822. Exotic Conchology 1st edition. *Biodiversity Heritage Library*

SWAINSON, W. 1841. Exotic Conchology 2nd edition. *Biodiversity Heritage Library*

POWELL, A.W.B. 1979. New Zealand Mollusca, marine, land and freshwater shells. Collins



Australian International Shell Show 2014

Clockwise from top left: Shells, science, visiting shell collections, trading, and more shells - some of the features of the very enjoyable and well organised Show run by the Sydney Shell Club, 7-9 February 2014, which was attended by a sizable contingent of Kiwi shell collectors.

Jean Delaney 11 February 1932 – 26 March 2014

by Judy Hardie

The Wellington Shell Club regularly receives collections of shells that are gifted to it – often from club members but sometimes from members of the public with only a tenuous connection to our club – or none at all. These gifts are always gratefully received and are put to good use, helping with our fund raising and adding to the collections of our members. Sometimes behind the collections we receive are the stories of very interesting lives.

Earlier this year we received a large shell collection from the estate of Miss Jean Delaney. Jean was born in Australia but after joining her family in New Zealand in 1937, most of her growing years were spent in the Wellington region. After leaving school she trained as a nurse, taking up her first job in Auckland. Jean was a woman of deep religious faith which in 1962 led to her becoming a nursing missionary sister in the New Hebrides (now known as Vanuatu). Her home for the following 13 years was on Pentecost Island. She learned the language of the people – Bismala - and was highly regarded by them. It wasn't an easy life as she was a sole charge medical practitioner, her only communication with colleagues on the other islands being by radio.

It was from the coastal region of Pentecost Island that Jean's large collection of shells of the Pacific was collected. Many were gifts brought to her by islanders who knew her love and fascination with the variety and beauty of the shells that were so abundant. On her return to New Zealand Jean sorted and labelled these shell to the best of her knowledge, expanding the collection with specimens collected here. In more recent years the shells were kept in cabinets in her garage; she and I would often talk about shells and she used to tell me stories about her time on Pentecost, an important part of her life. The *DomPost* featured her life story in an obituary on Saturday 7 June 2014.

STORM APPROACHING: I took this photo on 10 May 2014 while walking along Great Exhibition Beach in Northland. The black sky had sneaked up on me from behind and was quickly overtaking me. I have to say that I felt a little like a lightning rod walking along the beach. As it happened the weather only produced some scattered rain. Just to make this a shell story, I can add that the shell spoil included two *Tonna tankervillii* and an *Adelphotectonica reevei*.

FRED KEIL

Bivalve Wash-ups

by Kris and Roger Woods

As most experienced shell collectors know, the quantity of a particular shell species washing up on shore can fluctuate immensely from one day to the next and from one year to the next. After storms, shell beds can become disturbed and shells can wash ashore in large numbers. But often, the causes for large wash-ups are unknown.

At the end of June 2014, we came across a large wash-up of empty *Atrina zelandica shells* on the Waikanae side of the Waikanae River mouth. We endeavour to visit the Kapiti Coast beaches about once a month and have done so for many years. We haven't seen such a large wash-up of *A. zelandica* on this coastline since 2003 at Paraparaumu Beach and prior to that at Paekakariki Beach in 1997.

We also experienced a startling example of fluctuation in quantity of a bivalve species washed ashore during two visits to south west Florida. In March 2008 we arrived on Kice Island in the Gulf of Mexico and were greeted by extensive drifts of freshly-dead shells. The dominant species was *Argopecten gibbus*, washed up dead in their thousands. We gathered up several dozen excellent specimens. On our return to Kice Island in 2010 we expected to see a large wash up again but this was not the case. There were extensive shell drifts but *Argopecten gibbus* was almost nowhere to be seen. Such are the fortunes of a shell collector and the vagaries of nature.

Cellana dira update

by Mary Agnes Wotton

In *Cookia* 2013, "Limpets of French Polynesia" mentioned the ambiguity as to the correct taxonomy of *Cellana dira*, which no longer appeared in the major on-line checklists. Subsequently I did some further research and sent Phillipe Bouchet, at the Paris Museum of Natural History, a chronological history of the species with the addition of a paper by Tomlin in 1937 synonymizing *Helcioniscus* with *Cellana*.

As a result the ambiguity has been resolved, and *Cellana dira* (Reeve, 1855), in the family Nacellidae, has been added to the World Register of Marine Species (WoRMS) at http://www.marinespecies.org/

Small is Beautiful

by Fred Keil & Pete Cresswell

The phrase "small is beautiful" - attributed to Leopold Kohr, a self-described philosophical anarchist - may have first been applied as a counter to the "big is best" approach of economics. We suggest it has equal application to collections of molluscs. "Why?" you may ask.

For starters, there are simply far more species that are small than large. Estimates vary, but the ratio of 10:1, for species under 10 mm, has gained widespread traction. Indeed, that ratio may well hold for species that are 5 mm or less. Whatever the figure is, it is very obvious that most of the described molluscan species are small – very small. (Eds note: Likewise, if not more so, undescribed species.) So, in order to have any sort of representative collection, one is required to be inclusive. Being limited to less complete or representative collections simply because of an historical interest in large shells, is all a bit sad.

There are practical benefits, too, for being inclusive of the very small. Consider the matter of storage. With an aging population (yes, that's a reality for shell collectors as it is with the general population in western societies), and the movement to smaller accommodation, the matter of storage becomes a real issue. With very small species, a cabinet of quite modest dimensions can hold many hundreds, if not thousands, of specimens. The sheer practicality of including, or at least moving toward, micro-shells can be very attractive.

But what of the difficulties? "They're too small. You can't see them! Where can I find them? I don't know what they are even if I can see them. What can I keep them in" – are all comments heard. Sometimes, the answers can be relatively straightforward.

Low-power microscopes, once costing many hundreds of dollars, are now readily available quite cheaply. A large x10 hand lens can be bought for a few dollars. Head loupes magnifying up to x5 are also quite inexpensive. Hand-held digital microscopes – capable of projecting directly to a computer screen can be bought for under $100.

Storage can present a few challenges. For a sophisticated and systematic arrangement, the use of stoppered glass phials is probably the best. These can be obtained in various diameters, with 8 or 10 mm x 35 mm being handy sizes. They are obtainable from scientific supply stores in Auckland (Crescendo Enterprises being one). An alternative storage system can be built up very cheaply, using series of small, (approx. 20 mm x 20 mm x 12mm) clear, hinged, plastic trays. They are often joined in strips of four. Obtainable from stores selling homeware from China, they cost about $2 for a rack of 28 (an example in Motueka).

Labels detailing information can be printed off to any required size using almost any word processing program.

So far so good. The tricky bits come with finding specimens and identifying them – with the former being overcome by familiarity in recognising likely productive shell

sand, and learning recovery techniques from colleagues or simply from personal experience. The sort of experience that all of us gain from wandering shorelines in our search for shells. The latter issue can be challenging. But then, what worthwhile interest lacks challenges?

Above: *Daphnella cancellata* Hutton, 1878 3 x 1.7mm

Opposite page: *Liratilia compta* Powell, 1930. 4.5 x 1.9mm (top); *Merelina coronata* (Powell, 1928) 2.1 x 1.1mm (below).

New Zealand authors, notably Bruce Marshall, Ponder, Powell and Suter, to name the most recent principal contributors, have given collectors a rich vein of the 'what and where' of small molluscs. Most club members would likely have their publications to hand, as they would have the Raven and Bracegirdle *Visual Guide*. Papers published in New Zealand zoological journals are invariably available on-line and can be downloaded and printed. Their major works are held by the club and are available on loan.

With the aforesaid digital microscopes held by some of our micro-shell enthusiasts, would it not be an aid to every club member, potentially interested in very small species, to have an electronic database of New Zealand material? One which could be held by the club and built up by members? It wouldn't have to be anything sophisticated. Given the exquisite examples of design and elegance portrayed by our very small species, and the potential to enhance many of our collections, we hope that enthusiasm will build.

Reference - RAVEN, J & BRACEGIRDLE, S. 2010. New Zealand seashells visual guide. Creatus Design, Wellington.

Shell Cleaning

by Fred Keil

Shell cleaning can often be fraught with danger to our precious shells. In particular very small shells can be a problem where the individual bristle of a small brush can be larger than the micro shell. So what are we to do? When an ultrasonic cleaner was for sale at the Wellington Shell Club's garage sale, I jumped at the chance to buy it. The first lot of shells to be cleaned came from Mahia Peninsula; they were covered in the local type of soil material. I put them in a plastic dish to protect them from direct contact with the metal base of the unit, but they remained about the same as when they went in. Next I submerged the shells directly into the cleaner, adding a drop of detergent, and this time the shells came out nice and clean after three minutes.

A word of warning: very fragile shells should not be attempted as there is always a chance of damage - especially true for small land snails. I'm still looking for a good method for cleaning these - any ideas?

Now the sales pitch: get the most out of your ultrasonic cleaner by cleaning jewellery, watch straps, cutlery, sun glasses and even false teeth.

Ed's note: Our shell club owns an "UltraKleen Shell Cleaning Machine" bought from the USA after being recommended by overseas shell collectors. It works like a dental cleaner – the tip vibrates under a fine spray of water to remove shell "plaque". It is particularly good at removing calcium deposits and fine growth. Care is needed - the tip must not be used as a pick; use a gentle back and forth motion because too much pressure in one area may result in a hole! Members can borrow the cleaner for $5 + postage by contacting Mary Agnes Wotton. See pictures of the cleaner and 'before and after' efforts at www.citrisurf.com/shell

Fred's ultrasonic cleaner

Some Small Shells from the Very Far North

by Jenny Raven

A few years ago I purchased a lot at the Auckland Shell Club auction containing over 40 tubes of shells that had been sorted out of shell sand. Most had been dredged from various locations around New Zealand. I was particularly interested in three tubes of shells that had been dredged off Cape Reinga (at 73 m, in August 1971), Spirits Bay (at 57 m, in March 1972) and North Cape (47 m, undated). There were three other tubes associated with them, having similar reference numbers; one had locality data "Between CM and the mainland" (the CM may refer to Cape Maria); the other two were unlabelled beyond the reference number. All contained small shells which might be found in the very far north of New Zealand and the contents of the two tubes without locality data were very similar to that of the other three tubes.

I set about identifying these shells with the help of Bruce Marshall at Te Papa. In total I sorted out over 160 different species, many of which I had not seen before. I was particularly interested to find several species from the family Eulimidae, examples of *Rissoina*, *Liratilia* and *Argalista*, and some lovely specimens of *Veprecula cooperi, Stilla paucicostata, Nepotilla finlayi, Heterocithara mediocris, Herpetopoma benthicola* and *Tectisumen clypidellaeformis*. There were also several unnamed species and juveniles of larger shells.

Serious collectors know that obtaining shells from sources such as auctions will always carry some risk that locality data is inaccurate. This may seriously limit their scientific value. The opportunity to identify and see examples of these species, however, might not otherwise arise – for me this has been a nice way to obtain these shells without travel costs or leaving home.

A) *Selastele onustum* B) *Seila dillecta* C) *Cratis delicatula* D) *Liratilia elegantula* E) *Synthopsis caelata* F) *Argalista variecostata* G) *Nepotilla finlayi*

Come and See My Etchings

A Footnote to a Footnote, by Jill Burnet

As I was posting out the 2013 issue of *Cookia* I noticed that it contained an article on sinistral shells and I resolved to read this at the first opportunity. I was particularly interested in Pat's closing comments on 'flipped' photographs as a few months previously I had spent quite some time trying to decide whether or not an illustration of some shells had been flipped. I had been leafing through a copy of *World Shells* when I suddenly saw a plate of cones – left-handed cones. As Pat says, left-handed cones are unusual, so I stopped to read through the text. No mention of left-handedness. This is odd, I thought. Here is someone describing a shell with an accompanying illustration showing five specimens, all left-handed, but he does not mention that it is a species that prefers to be sinistral or that he has been lucky enough to obtain all these left-handed shells of a normally right-handed species.

Overleaf I found some rear views of the same shells. Unfortunately with cones it is not so easy to tell which side is which from the rear, but after going right through the text again and comparing the illustrations carefully, I came to the conclusion that the plate which first caught my eye had been reversed or flipped – such a let-down. To add to the confusion, the captions had not.

Even very illustrious people have fallen into this trap. If you are interested in shells in art you will have come across Rembrandt's etching of a *Conus marmoreus* – a cone again, exquisitely detailed but apparently left-handed. The etching process, of course, lends itself to this sort of error. A metal plate is covered with a coat of resin, the artist scratches his design through this with a sharp tool, and the plate is then immersed in an acid bath. Ink the plate and you have the means of producing a number of prints of the same image before the invention of photography. The drawback – the print is a mirror image of the plate, and therefore the artist must do his etching in reverse if he wants the image to look the same way as the original subject. Rembrandt was a master of the art of etching but he probably felt that the reversal of images was not generally a matter of great consequence – sometimes his signature got reversed, although he must have had a lot of practice in producing it on etchings. It is unlikely that he knew, or cared, that most gastropods coil in a particular direction.

And then, as things come in threes, I noticed in the front of the Ficus book, a drawing of a left-handed *Ficus*. I certainly don't have such a thing in my collection – I wish I did, but I suspect that this too may be another 'flipped' image.

References:

HULSKER, Dr J. 1957. Who was Rembrandt. Den Haag, Daamen.

STIX, H. and M & TUCKER ABBOTT, R. 1978. The shell. H.N. Abrams.

VERHAEGHE, M, & POPPE, G.T. 2000. A conchological iconography: The family Ficidae. ConchBooks.

WALLACE, R & TIME LIFE BOOKS. The world of Rembrandt.

World Shells. March 1994.

Little Taupiri Bay

by Fred Keil

If you have been a shell collector for some time then you need no introduction to this location. If not, it is located in the Bay of Islands and you get to it from Whangarei by following a long, windy and hilly road that first takes you to Bland Bay (but that's another story).

Taupiri is a place that is mentioned regularly in learned books but during the six or so times that Lesley and I have visited, the only really good finds were a couple of *Pictobalcis articulata*. Not to be discouraged, I once again visited during my annual trip north in order to escape the Masterton winter weather. Being a bit of a lone wolf, I find this to be the ideal time of year as you normally get the beaches and the D.O.C. camps to yourself and the solitude gives you time for reflection.

The finds at Bland Bay had been dismal so it was not with any feeling of expectation that I climbed down the grassy hill, under the large fallen tree, and on to Little Taupiri Bay. From half way down I could already see that this time could be different as there were three distinct lines of wash ups on the beach and I spent the next three hours on my hands and knees with my nose about 3 inches from the sand collecting the following:

5 *Clanculus peccatus* (Finlay, 1926)
3 *Nassarius spiratus* (A. Adams, 1852)
5 *Trivia merces* (Iredale, 1924)
1 *Tanea lemniscata* (Philippi, 1853)
1 *Mammilla simiae* (Deshayes in Deshayes & Milne-Edwards, 1838) – broken
1 *Bullina lineata* (Gray, 1825) - broken
2 *Murexsul mariae* Finlay, 1930

Not a bad day at the office, when one consider that this was only the pick of the bunch. From now on, I shall refrain from thinking that this place is a waste of time, and recommend it highly to all you "shellers" out there. The lesson, of course, is: NEVER GIVE UP.

Photos at right, from top, show the selection of Fred's shells referred to above; his *Tanea lemniscata* in close up and, for comparison, a selection of finds made by Jenny Raven at Taupiri Bay in September 2014.

What Shell Collectors Do in Midwinter

by Pat Lakeman

Like other New Zealanders looking to escape the winter weather for a while, some shell collectors pursue their hobby as a sideline of a holiday across the Tasman where temperatures are typically, well, more temperate. And some Australian shell collectors help by putting on shell shows to go to. This year there was a good Kiwi contingent at the Townsville and Keppel Bay shell shows, with Jenny Raven, Heather Smith, Kris & Roger Woods and Pat Lakeman all participating and, in the case of Heather and Jenny, returning with some Aussie trophies. These two shows are run every year in July and are very friendly, fun events – well worth a visit if you can get there.

But some of us are hardier and Bev Elliott, our "Kaikoura correspondent" is not at all fazed by New Zealand's winter weather. She writes:

"For Queens Birthday weekend this year I went out onto the Peninsula to get close-up photos of *Plaxiphora boydeni* for *Cookia*. Although it was a glorious day at Kaikoura, it must have been blowing up a storm elsewhere, as BIG waves were sending sheets of white spray over 'Plaxiphora Rock' so that little project will have to wait for another day. I had found a couple of clumps of *Aplysia brunnea* eggs washed ashore, so I went around to the channels where I used to find the big sea hares 30 years ago: nothing; though it was pleasant wading along admiring the lovely seaweeds.

Another tramper and I went out on the Peninsula for a little bit of 'midwinter madness'. It was fun pitching our tents by the beach in the twilight as the full moon rose out of the sea, and then cooking tea on the beach in the moonlight. It was a very long night, but not too cold, a little bit of fine weather at just the right time. Then breakfast on the beach as the sun rose and the moon set and a midwinter swim before returning home."

Heather Smith & Pat Lakeman having fun in Ena Coucum's shell room, Yeppoon. Photo: Jenny Raven.

OR if you prefer indoor pursuits away from your shell collection, the Paramount Cinema in Wellington had this offering a while back:

The Seashell and the Clergyman (1928, France)

"A clergyman, committed by his calling to celibacy but in love with a romantic beauty, is afflicted by sexual torments he is unable to resolve. The film is composed of a series of episodes using Freudian imagery to express the clergyman's mental anguish. Despite Antonin Artaud's dissatisfaction with the way Germaine Dulac handled his script, Dulac's film is a sincere and honest experiment whose sequences in the streets of Paris are especially notable."

- Georges Sadoul, *Dictionary of Films, 1965.*

"It is so cryptic as to have no apparent meaning. If there is a meaning, it is doubtless objectionable."

- The British Board of Film Censors (on banning the film).

Cookia contributions are welcome

Please use the molluscan names in the Checklist of the Recent Mollusca recorded from the NZEEZ by Spencer, Willan, Marshall and Murray, which can be viewed at **http://www.molluscs.otago.ac.nz/index.html** - and check the spelling carefully. In long lists of species names, they should NOT be listed in alphabetical order but in systematic sequence (with Family headings) as in the 'Checklist'. Bruce Marshall, at Te Papa Tongarewa Museum of New Zealand, is very willing to check identifications or species names for anyone who would like his help - please take advantage of this generous offer.

Wellington Shell Club 2013-2014

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Wellington Shell Club Publications

Cookia is the journal of the Wellington Shell Club and is published annually, containing articles and smaller items of interest on shells, shell collecting, and molluscs as well as other related marine topics.

Cookia was first published in 1976; prior to this the Club published a *Circular*, then a *Bulletin*, as well as occasional *Study Notes* on various families of mollusca.

PUBLICATIONS TO DATE

1956-1965 *Circular* 1 to 21

1967-1975 *Bulletin* 1 to 36

1976-1977 *Cookia* Volume 1, Nos 1, 2, 3

1977-1978 *Cookia* Volume 2, Nos 1, 2, 3

1979-1980 *Cookia* Volume 3, Nos 1, 2, 3

1980-1981 *Cookia* Volume 4, Nos 1, 2, 3

1982-1984 *Cookia* Volume 5, Nos 1, 2, 3, 4

1985-1992 *Cookia* Volume 6, Nos 1, 2, 3, 4

1993-1996 *Cookia* Volume 7, Nos 1, 2, 3, 4 [Index]

1997-2013 *Cookia* Volumes 8 - 25.

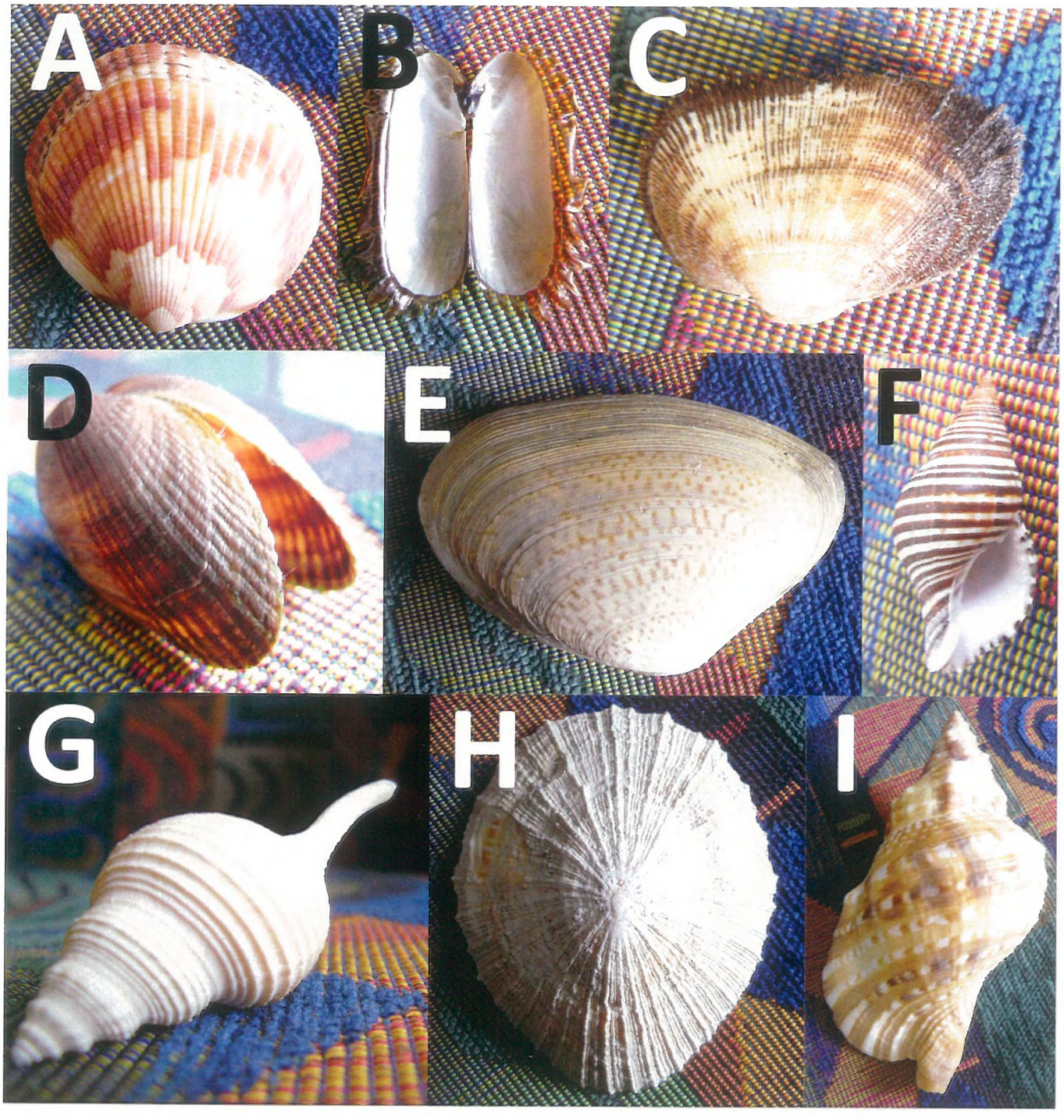
Cookia Volume 7, No 4, is an index of all articles in the Club publications to 1996.

Cookia Volume 14 is The Shell Lists issue.

BACK ISSUES

Back issues of *Cookia* are available, as are individual articles, and copies of the Bulletins, Circulars and Study Notes.

Order from Jill Burnet, 84 Brougham Street, Mt Victoria, Wellington 6011 New Zealand; or see our homepage at **www.wellingtonshellclub.org.nz**



The solution:

A: *Tucetona laticostata*, 50mm, East Beach, Far North. B: *Solemya parkinsonii*, 32mm, Spirits Bay, Far North. C: *Barbartia novozelandica*, 36mm, Owenga, Chatham Islands. D: *Musculus impacta*, 25mm, Waitangi, Chatham Islands. E: *Oxyperas elongatus*, 87mm, Tasman Bay. F: *Buccinulum pallidum powelli*, 31mm, Bland Bay, Far North. G: *Aeneator benthicola*, 52mm, Trawled B.O.P. H: *Scutellastra kermadecensis*, 109mm, Kermadec Islands. I: *Charonia lampas*, 126mm, East Beach, Northland.